

Biogenetic Paradoxes of the Nation: Finncattle, Apples, and Other Genetic-Resource Puzzles by Sakari Tamminen

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Hannu I. Heikkinen

University of Oulu

After reading Sakari Tamminen's book, *Biogenetic Paradoxes of the Nation: Finncattle, Apples, and Other Genetic-Resource Puzzles*, I at first got excited, not because of the reference to biogenetics or for the focus on my home country, Finland, but because of the broader relevance to anthropology of nations and nation-building. This has become an important topic due to the recent rise of many kinds of neo-nationalistic movements all over the world. Finland has the Finns Party, and Sweden has the Sweden Democrats, not to mention the right-wing conservative nationalistic movements in India, Brazil, Russia, and the United States, for example. All of these capitalize on nationalistic symbolism in a very straightforward way. Now, what do biogenetics puzzles have in common with nationalism? Reference to genetics conjures old anthropological debates on the validity of the concept of race in science, as well as the search for the origins, indigeneity, or autochtony of certain ethnic groups. The most extreme applications of "heredity" to national politics influenced fascist racial theories of eugenics in the early twentieth century. But what do cows or apples have to do with all of this? As a scholar interested in political ecology and economy with familiarity in multispecies ethnography, I was sold!

Sakari Tamminen applies the ground-breaking claims of theories of nations and nationalism to methodological approaches from science and technology studies (STS) and multispecies ontologies to analyze the role of nonhumans in nation-building and impacts of emerging global biopolitics, such as the Convention on Biological Diversity (CBD) in 1992. Tamminen's research could be characterized as a multisited ethnography through and through. It takes the reader on a journey from agricultural genetic laboratories to the fieldwork of conservation biologists and from artificial insemination practices and gene banks to the high tables and negotiations in the responsible ministries of environment and agricultural food production.

Tamminen makes use of case studies of Finncattle, ("indigenous") Alexander apples, and Finnsheep to reveal often surprising puzzles of local intentions and actions and their intermingling with international and global episodes. I am certain that a reader from any nation can read the book as a reference to other local dilemmas and national counterparts. The book gives a quick glance at the brief history of Finland as a sovereign nation. More importantly, it describes the early days of building a nation and its national symbols, as well as the self-recognition of emerging "Finnishness" as an ethnic identity during the late nineteenth and early twentieth centuries.

However, the most intriguing analysis follows more recent international trends on neoliberal economics and international legal agreements for solving global concerns, such as saving biodiversity from the negative side effects of the "green revolution," industrialization, and urbanization. The reasoning follows the interplay between benevolent aims to conserve biodiversity for the common good and a sustainable future, as well as how goodwill can become twisted when national politics and economic benefits get involved in policy implementation. The key here is how the CBD in Rio de Janeiro ended up considering biodiversity and especially genes as "resources" and as a "sovereign property" of nations that signed the agreement thereafter. The narrative shows how "well-traveled" and intentionally cultivated national breeds become recognized as endangered species after some global economic and political turns. It also explores how they transform into

native representations of the nation's property, and finally become future specimens of "stilled life" in gene banks.

In short, *Biogenetic Paradoxes of the Nation* is an exciting and detailed analysis of the role of nonhumans in nation-building and of how the local and global get tangled into an Ingoldian "messwork" in the dynamics of "the social construction of reality." It offers a glimpse into everyday episodes in the work of gene-sample collectors and practical dilemmas related to the world of artificial insemination and gene banks. The only weak link is that the chronological order of narration can be at times confusing for an international reader who is not familiar with the emergence of Finland as a sovereign nation. At times, the book is also quite heavy with technical details of international conventions and work routines in conservation laboratories. Overall, the book is a marvelous read for scholars interested in entanglements of economy, politics, nature, and our animal companions as part of society.